THE IMPACT OF A PRECEPTOR BOOTCAMP ON CONFIDENCE AND EFFECTIVENESS

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The Impact of a Preceptor Bootcamp on Confidence and Effectiveness

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ABSTRACT

Purpose: The design and implementation of a pilot preceptor development bootcamp and its impact on preceptor confidence and effectiveness is described.

Summary: The University of Texas MD Anderson Cancer (MDACC) designed and implemented a pilot preceptor development bootcamp for operational staff pharmacists serving as residency preceptors for longitudinal staffing experiences. A systematic, multi-pronged approach was taken to identify preceptor development gaps and design a full-day bootcamp curriculum. The resultant curriculum included content in major functional areas such as using the 4 preceptor roles, documenting performance, giving and receiving feedback, and dealing with difficult situations or learners. The impact of the pilot preceptor development bootcamp was assessed using survey methodology to assess confidence and effective in major preceptor functional areas for which education was provided.

Conclusion: The implementation of a pilot preceptor bootcamp program resulted in a reported increase in precepting confidence and effectiveness by attendees.

BACKGROUND

Environment: The University of Texas MD Anderson Cancer Center is a comprehensive cancer center in Houston, TX with over 28,000 hospital admissions and 1,440,000 outpatient clinic visits, treatments, or procedures per year. It is world-renowned for its cancer care and innovations in cancer prevention, translational research, and provision of multidisciplinary patient care.

The Division of Pharmacy employs over 500 individuals and supports patient care through clinical and operational pharmacy services in acute care, ambulatory care, and retail pharmacy environments. At the time of this pilot program, the institution's Division of Pharmacy supported four residency programs representing up to eleven residents annually (PGY1 – 3 residents, PGY2 Critical Care – 2 residents, PGY2 Oncology – 4 residents, PGY1/PGY2 Health-System Pharmacy Administration – 2 residents). Clinical learning experiences for all programs were precepted by individuals with a minimum of two years postgraduate training and a majority of which had acquired board-certification in their respective specialty. Preceptor background for operational staffing experiences varied, with most individuals having completed zero to one years postgraduate training with no postgraduate specialization.

Preceptor Development Practices: Preceptors are critical components for the success and efficacy of residency programs in training pharmacy practitioners. Individuals serving as preceptors should be exceptional role models for pharmacy practice and maintain professional and educational qualifications for service in such a role. The American Society of Health-System Pharmacists (ASHP) describes preceptor responsibilities as follows: contribution to resident and program success, learning experience provision, active participation in continuous quality improvement for the residency program, demonstration of practice expertise/preceptor skill and continual search for improvement, adherence to program and department policies, and demonstrable commitment to residency program and pharmacy practice advancement.

It is important that preceptors meet an elevated standard of pharmacy practice and professional qualification. Standard 4 of the ASHP Accreditation Standard for both Postgraduate Year 1 (PGY1)

and Postgraduate Year 2 (PGY2) Residency Programs requires that preceptors must meet one or more of the qualifying characteristics in each of the areas listed below.[1,2]

- ability to precept residents' learning experiences by use of clinical teaching roles (i.e., instructing, modeling, coaching, facilitating) at the level required by residents
- ability to assess residents' performance
- recognition in the area of pharmacy practice for which they serve as preceptors
- an established, active practice in the area for which they serve as preceptor
- maintenance of continuity of practice during the time of residents' learning experiences
- ongoing professionalism, including a personal commitment to advancing the profession

Preceptors meeting these qualifications should be able to provide necessary learning experiences and guidance for trainee development. Additionally, the characteristics associated with professionalism and pharmacy practice ensure their suitability to serve as a role models for pharmacy trainees. Achievement of the characteristics described in ASHP PGY1 or PGY2 Standard 4 may occur in postgraduate years for individuals with advanced residency training, however, many practicing pharmacists have not received formal instruction in precepting. Though these individuals may meet the pharmacy practice qualifications, they do not exemplify qualifying characteristics related to use of clinical teaching roles, resident assessment, or continuity of practice during precepting. In this situation, a formal preceptor development program serves to remediate gaps and advance precepting skill. Operational staffing preceptors at MD Anderson Cancer Center represent a population with distinct unmet preceptor training needs as many staff pharmacists did not complete residency training and have not received formal education in precepting methods. The majority of previously published literature focuses on preceptor development for student pharmacists. Less

documentation exists on the effects and impact of a development program for residency preceptors, specifically for operations pharmacists serving as staffing preceptors.

This pilot investigation is unique in comparison to existing literature (see Table 1) for the reasons listed below. To the investigator's knowledge, no other publications assess the specific effectiveness of a bootcamp format preceptor training for operational pharmacists serving as residency preceptors.

- Describes strategic development of a preceptor bootcamp education from gap analysis and needs assessment through
- Focus on operational staffing preceptors for residency programs instead of preceptors for pharmacy students
- Evaluates bootcamp effectiveness via individual surveys devoted to assessing preceptor confidence and effectiveness and resident perception of preceptor skills

Table 1: Comparison of Preceptor Training Publications

Publication	Description/Conclusion	Differences from Pilot Study
A comprehensive approach to preceptor development.[3] Vos SS, Trewet CB. (2012)	Preceptor Training: Core and elective web-based modules, training videos, printed preceptor newsletter and resources, live preceptor development events, and one-on-one preceptor development for University of Iowa College of Pharmacy preceptors Program Evaluation: Student evaluations were compared before (n=1,900) and after (n=3,160) the program's implementation resulting from 1,818 APPEs pre-implementation and 1,688 APPEs post-implementation. Preceptors completed over 1,100 modules. Conclusion: The preceptor training program received positive evaluations and resulted in	• Conducted in population of pharmacy student preceptors • Preceptor training program included multiple education formats with impact assessed as a whole • Included preceptors from many areas of practice, not specific to hospital operations

	improved student evaluations of preceptors. More preceptors were rated "good" and fewer were rated "fair" or "poor" after program implementation.	
Development and evaluation of a workplace-based preceptor training course for pharmacy practitioners.[4] Woloschuk DM, Raymond CB. (2012)	Preceptor Training: Self-study readings, seminars, and practical experience with feedback provided for 28 pharmacist and 12 technician attendees Program Evaluation: Qualitative feedback on the development program was collected via open-ended questions in live interviews. Participants had particularly positive views on the feedback provision, lesson plan implementation, and use of various learning styles. Conclusion: Creation and implementation of a formal preceptor development course resulted in learning satisfaction and evidence of maintained preceptor skill up to three years after the course.	• Training focused on precepting students or new staff, not residents • Preceptor training program included multiple education formats • Evidence collected was solely qualitative

Though preceptor training is an important component of residency program planning and development, it has not been uniformly adopted by pharmacy residency programs. A 2017 survey by Philips, et al. reported that only 23% of 71 Residency Program Director (RPD) survey respondents had an established preceptor-in-training program.[5] These development programs reportedly relied upon seasoned pharmacists meeting the ASHP preceptor standard to serve as mentors for preceptors-in-training and develop program content. A best practices assessment from the Ohio Society of Health-System Pharmacists also noted preceptor development as a core issue for the majority of partial compliance areas for residency programs.[6]

The identification of this need is certainly a first step towards closing the residency preceptor development gap, however, design and execution of such a program can present a challenge for RPDs. Initial decision points include format, major curriculum topics, longitudinal experience, and establishment of feedback mechanisms. Use of a systematic and multi-pronged approach is recommended to identify preceptor development gaps and guide decision-making for the aforementioned points. The most common formats include a full or partial day bootcamp, which may be complemented by a longitudinal program component. Longitudinal experiences may be supported by use of additional live educational events (e.g., local college of pharmacy offerings), online training resources (e.g., Pharmacist's Letter), and customized preceptor development sessions from experienced preceptors within the institution.[7] Use of a multimodal preceptor development program leveraging web-based or printed tools and live development events was shown to improve student evaluations of preceptors, suggesting use of similar designs may be beneficial in resident preceptor development.[3]

Residency preceptor development represents a major area for improvement as shown by survey assessment of current preceptor training practices and common reported areas of partial compliance during ASHP residency accreditation.[5,8] Previously published models include use of an orientation bootcamp complemented by required longitudinal continual education (CE) completion, and self-study paired with interactive seminars.[4,9] This publication describes the development and implementation of a pilot preceptor development bootcamp for operational pharmacists serving as resident staffing preceptors and its impact on preceptor confidence and effectiveness.

DESIGN AND METHODOLOGY

Format: The researchers chose a full-day bootcamp format based upon recommended best practices for preceptor development and support from preceptor educators at MD Anderson Cancer Center.[6,10] The bootcamp curriculum design followed the standard process for effective education design beginning with a needs assessment and gap analysis. This information was used to identify major objectives and educational goals for the bootcamp curriculum and to assist preceptor educators in creating content for each area of education.

Needs Assessment, Gap Analysis, and Content Development: In order to effectively identify major gaps in preceptor development at the institution, a multi-pronged approach was taken in conducting the gap analysis. Nine operational pharmacist preceptors that would be attendees at the proposed bootcamp were administered a survey to assess their individual learning needs in four major categories (i.e., Fundamentals of Precepting, Learning Experience Design, Communication, and Mentoring). Individuals were asked to rate a total of 24 topics from the four categories (e.g., Review of ASHP Preceptor Goals, Professionalism, Developing a Learning Experience Descriptor) on how much they would contribute to their development as a resident preceptor. Responses were collected based on a five point Likert Scale of "definitely won't" to "definitely will." The data were then weighted based upon strength of response (e.g., response of "definitely will" reported as five, "probably will" reported as three) to rank the topics by estimated value based on preceptors' self-identified interests and needs.

Information acquired from the preceptor survey was paired with commentary from a focus group comprised of RPDs and Residency Coordinators (RC) to identify observed gaps in preceptor performance and areas of need for preceptor development. The focus group provided an external,

qualitative perspective for identification of preceptor needs as some staffing preceptors may not be individually aware of observable gaps in their precepting education and performance. Finally, a comprehensive literature review was performed to identify literature support for the chosen topics of interest based on published preceptor literature.[5,6,11-13]

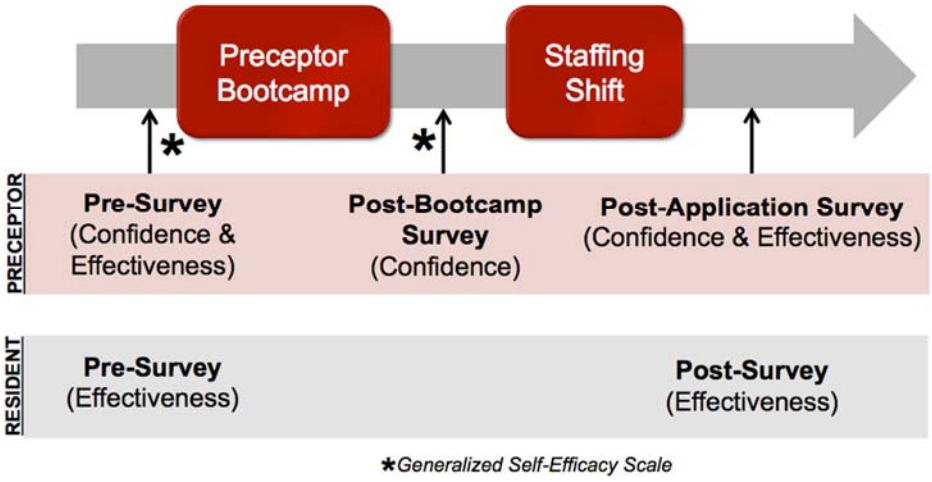
This approach to curriculum design resulted in identification of 18 topics (Appendix A) spanning the following four major areas of learning: Precepting Overview, Learning Experience Design, Feedback, and Crucial Conversations. Responsibility for content development in these four areas was split among eight content experts from the RPD and RC group at the institution. Operational staff were invited by the RPDs and RCs to assist in the development of effective and applicable content for preceptors attending the bootcamp.

Research Methodology: The primary objective of this quasi-experimental pilot investigation is to assess the impact of a live, full day preceptor bootcamp on confidence and effectiveness in major areas of preceptor function for pharmacists serving as resident preceptors for the operational staffing longitudal residency experience. This objective was assessed through survey data collected before and after the bootcamp event (Image 1). All preceptors completed the pre-survey tool which was designed to assess both confidence and effectiveness related to precepting skill areas (Appendix B) and were also assessed on preceptor self-efficacy (i.e., belief in personal ability to deal with stressful situations effectively) using a validated 10-item Generalized Self-Efficacy Scale.[14,15] Bootcamp attendees received a second post-bootcamp survey after completion of the training which assessed only confidence parameters from the pre-survey. Preceptors with active resident assignments for the year were surveyed a third time on both confidence and effectiveness after precepting a resident and applying skills taught in the bootcamp intervention. Residents were also

asked to assess their preceptor's effectiveness before and after the bootcamp to assess changes in performance after preceptor education (Appendix C).

Preceptor responses were collected on "Not Confident" to "Very Confident" and "Not Effective" to "Very Effective" scales depending upon the objective being assessed whereas resident responses were collected on a scale of "Not Effective" to "Very Effective". Both preceptor and resident Qualtrics surveys were scored based on a 4-point Likert scale in order to prevent neutral responses that may result from use of a 5-point scale.

Image 1: Overview of Survey Timelines in Comparison to Bootcamp Event



Statistical Considerations: The pre-bootcamp, post-bootcamp, and post-application survey data from both preceptors and residents were collected using Qualtrics Survey Software. No patient data was collected for the purposes of this pilot study. Primary outcomes were assessed using descriptive statistics with means compared using a paired student's t-test. Due to the classification of this investigation as a pilot study, the investigators recognize the limitations presented by the small sample size and did not intend for the pilot investigation to meet power.

The primary outcomes were assessed using both descriptive statistics. Each of these parameters were compared using a paired student's t-test. Comparison of baseline scores for the preceptor group attending the bootcamp, but not precepting a resident (n=7) compared to those that both attended and precepted (n=-7) was conducted using an independent student's t-test.

RESULTS

Demographics: Fourteen preceptors attended one of the two bootcamp sessions held during October 2017. Of the fourteen, formal precepting experience varied; three reported having never precepted a resident, two had 0-2 years of experience, eight had 3-5 years experience, and one had 6-10 years of experience. Pharmacy practice experience among the population was much more extensive with all preceptors having more than five years of practice and thirteen of the fourteen attendees having been in practice ten years or longer (Table 2).

Table 2: Preceptor Bootcamp Attendee Demographics

	Bootcamp Attendees (n=14)
Pharmacy Practice Experience:	
0-10 Years	5 (36%)
11-15 Years	2 (14%)
>15 Years	7 (50%)
Precepting Experience:	
0-2 Years	5 (36%)
3-5 Years	8 (57%)
6-10 Years	1 (7%)
Practice Area:	
Central Operations	12 (86%)
Ambulatory Infusion Operations	2 (14%)
Doctorate of Pharmacy Degree	11 (79%)
Completed PGY1	2 (14%)*
BCPS Certification	1 (7%)

** one additional participant began, but did not complete residency training*

Survey Results: Thirteen of the fourteen participants completed both distributions of the 10-question Generalized Self-efficacy Scale, which was rated on a 4-point scale from "Not At All True"

to “Exactly True”.[15] An increase in mean response was seen for four of the ten questions while mean response for the remaining six was decreased.

- Question 1: I can always manage to solve difficult problems if I try hard enough (Average: pre – 3.23, post – 3.38, standard deviation – 0.801)
- Question 5: Thanks to my resourcefulness, I know how to handle unforeseen situations. (Average: pre – 3.15, post – 3.31, standard deviation – 0.555)
- Question 8: When I am confronted with a problem, I can usually find a solution. (Average: pre – 3.23, post – 3.46, standard deviation – 0.439)
- Question 10: I can usually handle whatever comes my way. (Average: pre – 3.31, post – 3.46, standard deviation – 0.689)

Fourteen preceptors completed the pre- and post-bootcamp surveys and seven proceeded to precept a resident and complete the related post-application survey between two and twelve weeks after bootcamp attendance after one touchpoint of precepting a resident.

Comparison of pre-bootcamp versus post-bootcamp scores related to questions on confidence revealed a mean increase in confidence in every area (Table 3). The greatest increases were seen in the areas of designing activities to meet resident gaps or needs, providing verbal and written formative feedback, and using the Direct Instruction preceptor role.

Table 3: Comparison of Pre-Survey versus Post-Bootcamp Preceptor Responses (n=14)			
Survey Question	**Pre-Survey**	**Post-Bootcamp**	**Mean Change (σ)**
General Use 4 Preceptor Roles	2.86	3.36	0.5 (0.52)
Direct Instruction	2.86	3.43	0.57 (0.65)
Modeling	3	3.43	0.43 (0.51)
Coaching	2.79	3.29	0.5 (0.65)
Facilitating	2.86	3.36	0.5 (0.65)
Designing Activities to Meet Objectives	2.86	3.29	0.43 (0.85)
Designing Activities to Meet Gaps/Needs	2.71	3.29	0.58 (0.85)
Verbal Formative Feedback	2.86	3.43	0.57 (0.51)
Written Formative Feedback	2.79	3.36	0.57 (0.65)
Conducting Crucial Conversations	2.86	3.14	0.28 (0.61)
Addressing Challenging Situations	2.86	3.21	0.35 (0.5)

Preceptor confidence and effectiveness were evaluated for individuals attending the bootcamp (Table 4). Comparison of pre-bootcamp versus post-application scores showed a mean increase in both confidence and effectiveness in most areas. A decrease in mean or no change was shown for questions related to effectiveness in coaching and facilitating, confidence in conducting crucial conversations and addressing challenging situations. The greatest mean increase was seen in the area of confidence in providing written formative feedback (mean change of 0.71), followed by confidence in coaching and providing verbal formative feedback and effectiveness in providing verbal and written formative feedback (mean change of 0.57 for these areas).

Table 4: Comparison of Pre-Survey versus Post-Application Preceptor Responses (n=7)				
	Survey Question	**Pre-Survey**	**Post-Bootcamp**	**Mean Change (σ)**
Confidence	General Use of Four Preceptor Roles	3	3.43	0.43 (0.79)
	Direct Instruction	3	3.43	0.43 (0.79)
	Modeling	3.14	3.43	0.29 (0.76)
	Coaching	2.86	3.43	0.57 (0.98)
	Facilitating	3.14	3.43	0.29 (0.76)
Effectiveness	General Use of Four Preceptor Roles	3.14	3.29	0.15 (0.69)
	Direct Instruction	3.14	3.29	0.15 (0.69)
	Modeling	3.14	3.29	0.15 (0.69)
	Coaching	3.14	3.14	0 (0.58)
	Facilitating	3.29	3.29	0 (0.58)
Confidence	Verbal Formative Feedback	3.14	3.71	0.57 (0.79)
	Written Formative Feedback	3	3.71	0.71 (0.76)
	Conducting Crucial Conversations	3.14	3	-0.14 (0.69)
	Addressing Challenging Situations	3.14	3.14	0 (0.82)
Effectiveness	Verbal Formative Feedback	3	3.57	0.57 (0.79)
	Written Formative Feedback	3	3.57	0.57 (0.79)
	Conducting Crucial Conversations	3	3.14	0.14 (0.38)
	Addressing Challenging Situations	3	3.14	0.14 (0.38)

Resident perception of preceptor performance in these major areas was also assessed (Table 5). The same resident and preceptor pairs were maintained during surveying to reduce response bias during review. Survey results showed an increase in preceptor service as a pharmacy practice role model from 2.43 during the pre-survey to 2.57 in the post-survey. However, a decrease in preceptor availability from 4.0 in the pre-survey to 3.57 in the post-survey was reported.

Table 5: Resident Perception of Preceptor Performance			
Survey Question	**Pre-Survey**	**Post-Survey**	**Mean Change (σ)**
General Use 4 Preceptor Roles	3.14	3.43	0.29 (0.76)
Direct Instruction	3.33	3.50	0.17 (0.75)
Modeling	3.29	3.29	0 (0.58)
Coaching	3.43	3.29	-0.14 (0.38)
Facilitating	3.14	3.14	0 (0.82)
Verbal Formative Feedback: Staffing Performance	2.86	3.29	0.43 (1.13)
Written Formative Feedback: Staffing Performance	2.86	3.14	0.28 (1.11)
Verbal Formative Feedback: Guiding Development	3.00	3.14	0.14 (0.9)
Written Formative Feedback: Guiding Development	2.71	3.00	0.29 (1.25)
Conducting Crucial Conversations	2.71	2.86	0.15 (1.07)
Dealing with Challenging Situations	2.71	3.14	0.43 (0.98)

Additional sub-analysis was conducted to compare changes among preceptor with two years or less of experience (n=5) versus preceptors with three or more years of experience as a resident preceptor (n=9). Preceptors with two years or less of precepting experience reported a higher baseline confidence in seven of the eleven measures. The comparator group with three or more years of precepting experience had fewer individuals with a decrease or no change in confidence for each measure compared to preceptors with zero to two years of precepting experience.

A secondary sub-analysis was performed to compare pre-bootcamp baseline scores for the group attending the bootcamp, but not precepting a resident versus individuals attending the bootcamp and continuing on to apply this learning through a resident precepting experience (Table 6). Preceptors that would continue on to apply their knowledge generally rated themselves as more confident at baseline compared to individuals only attending the bootcamp. The exception to this trend was in the areas of designing activities to meet objectives and designing activities to meet gaps/needs where there was no difference between the groups. This may be due to a general lack of experience in learning activity design demonstrated by all fourteen bootcamp attendees.

Table 6: Comparison of Pre-Survey Baseline Scores for Attendance Only Versus Application Groups			
Survey Question	**Application**	**Attendance Only**	**Mean Difference**
General Use 4 Preceptor Roles	3.00	2.71	0.29
Direct Instruction	3.00	2.71	0.29
Modeling	3.14	2.86	0.29
Coaching	2.86	2.71	0.14
Facilitating	3.14	2.57	0.57
Designing Activities to Meet Objectives	2.86	2.86	0
Designing Activities to Meet Gaps/Needs	2.71	2.71	0
Verbal Formative Feedback	3.14	2.57	0.57
Written Formative Feedback	3.00	2.57	0.43
Conducting Crucial Conversations	3.14	2.57	0.57
Addressing Challenging Situations	3.14	2.57	0.57

Qualitative feedback was also recorded from both preceptor and resident respondents regarding the bootcamp and precepting experiences. Preceptors recommended the following improvements for the bootcamp:

- Conduct an eight hour class for new preceptors and four hour class for current preceptors
- Share more examples of evaluations and development activities
- Incorporation of more operational staff experiences and perspectives.

After applying knowledge gained in the preceptor training, the most commonly reported areas for continued improvement were having effective crucial conversations and providing more articulate feedback.

Resident respondents gave specific recommendations for improvement for their preceptors. Comments included tailoring feedback and teaching style based on resident learning style, providing “in the moment” feedback to facilitate quick improvements, and finding a better balance between independent work and support provision.

DISCUSSION

Results from the generalized self-efficacy survey were mixed, with four questions resulting in a positive response and the remaining six showing a decrease in mean score after bootcamp attendance. It is possible that different visual presentation of the survey would have changed the results. The survey was distributed with overarching instructions to complete in context of precepting efficacy. However, adjustment of the individual questions to include reference to precepting may have better guided the respondents to focus solely on self-efficacy in precepting.

Preceptor survey results showed increased mean confidence in all areas of preceptor skill after bootcamp attendance, suggesting the intervention improved individual confidence in performing major precepting skills. The magnitude of the mean increase was lowest in the areas of conducting crucial conversations and addressing challenging situations. This was driven by a smaller degree of change in respondents with zero to two years precepting experience. Overall, preceptors with zero to two years of experience tended to have higher baseline scores and smaller change magnitude for response questions related to confidence. This effect may be due to increased understanding of the purpose of a preceptor and the skills necessary to effectively precept a resident in comparison to individual skill level. This population likely experienced the greatest change in perception of the role of a resident preceptor and benefitted from the education, but increased awareness of experiential and knowledge gaps subsequently decreased their confidence.

Preceptors that subsequently applied the skills learned during the intervention during a single resident precepting experience between two and twelve weeks after bootcamp attendance reported a mean increase in most measures, however, no change was observed in the areas of effectiveness in coaching and facilitating or confidence in addressing challenging situations. A mean decrease in confidence was reported for conducting crucial conversations after individuals

precepted a resident which may be due to experience with challenging situations during the subsequent staffing experience. This result may be similar to the confidence results for preceptors with zero to two years' experience and could be derived from increased self-awareness of personal effectiveness in handling crucial conversations from the education. After the follow-up precepting experience, respondents reported feeling more confident in their ability to coach and facilitate, however, they did not perceive themselves as more effective at coaching or facilitating. Such data trends indicate it may be of value to incorporate a more active means of providing preceptors with feedback on how they handle situations throughout their time with a resident in order to affirm when situations or conversations are handled well and provide constructive comments when improvements could be made.

Resident responses were more variable than preceptor responses with a positive trend overall in preceptor performance, but smaller magnitudes of change. The residents perceived their preceptors as better practice role models after the bootcamp, but indicated they may have been less available. Increases in mean response were seen in eight of the eleven performance questions, however, mean responses for coaching decreased and no change was reported for performance in modeling or facilitating. These perceived changes may stem from preceptors serving in a more assertive and independent precepting role with resident touchpoints occurring less frequently throughout the day. This observation may also be partially due to preceptor and resident dynamics throughout the timeframe of the pilot investigation as increased preceptor assertiveness was not always well-received by the resident in the follow-up staffing experience.

Conclusions of this pilot investigation are limited by small sample size, lack of blinding, and potential bias resulting from use of self-assessment as a primary means of data reporting. It is also possible

that some modules were received more effectively than others since each of the four bootcamp areas was taught by a different set of educators. Differences in group discussions due to attendee variability at each sessions may have also impacted the education's effectiveness.

The investigators plan to use the results from this pilot investigation to improve their preceptor training methods going forward. Major considerations include revision of methods for effectively teaching coaching and facilitating roles, incorporation of more active learning and discussion components to the curriculum, implementation of a preceptor feedback mechanism, and expansion to clinical preceptors at the institution.

CONCLUSION

In conclusion, the implementation of a pilot preceptor bootcamp program addressing major areas of precepting skill resulted in an increase in confidence and effectiveness by preceptor attendees. Attendee feedback regarding the preceptor development bootcamp was positive and will be used to tailor future preceptor training curriculums.

Appendix A: Preceptor Development Bootcamp Curriculum Design	
Precepting Overview	Preceptor Time Management
	How to Integrate Residents into Daily Practice
	Using the 4 Preceptor Roles Effectively
	Motivating Residents
	Qualities of an Effective Preceptor
	Developing a Mentor/Mentee Relationship
Learning Experience Design	Navigating PharmAcademic
	Creating Learning Activities to Meet Goals/Objectives
	Review of ASHP Preceptor Standards/Goals/Objectives
	Using Bloom's Taxonomy and the Cognitive Process Dimension
	Orientation to Learning Experiences
	Developing a Learning Experience Descriptor
Feedback	Providing and Receiving Effective, Criteria-based Feedback
	Documenting Feedback
	Explanation of Assessment Terms
Crucial Conversations	Precepting Challenging Residents
	Conducting Difficult Conversations
	Conflict Management and Negotiation Skills
	Managing Generational Gaps

Appendix B: Preceptor Pre-Survey **assessment of confidence and effectiveness rated on 4-point Likert Scale*	
Question 1	How would you rate your performance as a pharmacy practice role model for residents?
Question 2	How often are you available for resident interactions when precepting?
Question 3	Rate your perceived confidence in using the four preceptor roles to assist resident learning in general.
Question 4	Rate your perceived confidence in using Direct Instruction.
Question 5	Rate your perceived confidence in using Modeling.
Question 6	Rate your perceived confidence in using Coaching.
Question 7	Rate your perceived confidence in using Facilitating.
Question 8	Rate your perceived effectiveness in using the four preceptor roles to assist resident learning in general.
Question 9	Rate your perceived effectiveness in using Direct Instruction.
Question 10	Rate your perceived effectiveness in using Modeling.
Question 11	Rate your perceived effectiveness in using Coaching.
Question 12	Rate your perceived effectiveness in using Facilitating.
Question 13	Rate your perceived confidence in designing activities to meet the learning experience objectives.
Question 14	Rate your perceived confidence in designing activities to meet the resident's identified knowledge gaps or needs.
Question 15	Rate your perceived effectiveness in designing activities to meet the learning experience objectives.
Question 16	Rate your perceived effectiveness in designing activities to meet the resident's identified knowledge gaps or needs.
Question 17	Rate your perceived confidence in providing honest, constructive **VERBAL** formative feedback to the resident.
Question 18	Rate your perceived confidence in providing honest, constructive **WRITTEN** formative feedback to the resident.
Question 19	Rate your perceived effectiveness in providing honest, constructive **VERBAL** formative feedback to the resident.
Question 20	Rate your perceived effectiveness in providing honest, constructive **WRITTEN** formative feedback to the resident.
Question 21	Rate your perceived confidence in having crucial conversations with the resident.
Question 22	Rate your perceived confidence in addressing challenging situations with the resident (e.g., clinical disagreement, providing constructive criticism).
Question 23	Rate your perceived effectiveness in having crucial conversations with the resident.
Question 24	Rate your perceived effectiveness in addressing challenging situations with the resident (e.g., clinical disagreement, providing constructive criticism).
Question 25	Describe one thing you do well as a preceptor.
Question 26	Describe one thing you would like to improve upon as a preceptor.

Appendix C: Resident Pre-Survey **assessment of preceptor performance rated on 4-point Likert Scale*	
Question 1	How would you rate the preceptor as a pharmacy practice role model?
Question 2	How often was the preceptor available for resident interactions when precepting?
Question 3	How effective was the preceptor at using the 4 preceptor roles to assist your learning as a resident in general?
Question 4	How effective was the preceptor at using Direct Instruction?
Question 5	How effective was the preceptor at using Modeling?
Question 6	How effective was the preceptor at using Coaching?
Question 7	How effective was the preceptor at using Facilitating?
Question 8	How effective was the preceptor at designing activities to meet the staffing learning experience objectives?
Question 9	How effective was the preceptor at designing activities to meet YOUR identified knowledge gaps/needs?
Question 10	How effective was the preceptor at providing constructive **VERBAL** formative feedback based on your staffing performance
Question 11	How effective was the preceptor at providing constructive **WRITTEN** formative feedback based on your staffing performance
Question 12	How effective was the preceptor's verbal formative feedback in guiding your development?
Question 13	How effective was the preceptor's written formative feedback in guiding your development?
Question 14	How effective was the preceptor at having crucial conversations regarding areas for improving your performance?
Question 15	How effective was the preceptor at addressing challenging situations with you (e.g., clinical disagreement, providing constructive criticism)?
Question 16	Describe one thing your preceptor did well.
Question 17	Describe one thing you wish your preceptor did differently.

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